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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SANDRA HELTON McCain and JOHN MARK MEDLEY

Appeal 2009-012153
Application 10/783,896
U.S. Patent Publication 2005/0183629
Technology Center 1700

Decided: October 7, 2009

Before: FRED E. McKELVEY, *Senior Administrative Patent Judge*,
and RICHARD E. SCHAFER and RICHARD TORCZON, *Administrative
Patent Judges*.

McKELVEY, *Senior Administrative Patent Judge*.

DECISION ON APPEAL

A. Statement of the case

Lexmark International, Inc. [hereinafter Lexmark], the real party in interest, seeks review under 35 U.S.C. § 134(a) of a final rejection (mailed 10 October 2007).

The application was filed on 20 February 2004.

Claims 5, 7, and 11-14 are on appeal.

Claims 1-2 and 9-10 are also in the application, but have been withdrawn from consideration. Final Rejection, page 2; see also the Examiner's Office Action, page 2 (mailed 29 August 2006).

The following prior art is relied upon by the Examiner in the Examiner's Answer:

Kanaya	Patent 6,482,256	19 Nov. 2002
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The reader should know that "et al." is not used in this opinion.

Kanaya is prior art under 35 U.S.C. § 102(b).

We have jurisdiction under 35 U.S.C. § 134(a).

B. Findings of fact

The following findings of fact are supported by at least a preponderance of the evidence.

References to the specification are to the specification as filed and not the U.S. Patent Publication.

Additional findings as necessary may appear in the Discussion portion of the opinion.

1 (1) Lexmark invention

2 Lexmark Figure 1 and Lexmark Figure 2 are reproduced below.

FIG. 1

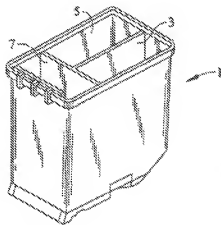
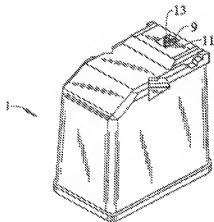


FIG. 2



3
4 Lexmark Fig. 1 depicts a top, perspective view of a printhead with a cover
5 omitted where the printhead might contain inks of the Lexmark invention.

6 Fig. 2 depicts a bottom perspective view of the same printhead.

7

Page 8:7-24 of the Specification explains:

Figures 1 and 2 are based on illustrations of U.S. Patent No. 5,926,195, assigned to [Lexmark]. The cartridge shown is illustrative of a printhead with which [the Lexmark] invention may be employed. As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic—are] kept. Similarly, in a separate cartridge the three chambers 3, 5, and 7 each contain full intensity inks of different colors. Orifices 9, 11, and 13 shown in Fig. 2 permit the ink in each chamber to leave the chamber for printing. Each orifice 9, 11, and 13 is in separate liquid communication with one of the chambers 3, 5, and 7. As is widely practiced, the printhead 1 has a thermal chip or other ink discharge device (not shown) which receives ink from orifices 9, 11, and 13 and applies to ink in small dots or pels on the media being imaged.

Ink exits the printhead 1 from the same side (the side having orifices 9, 11, and 13 in FIG. 2) and generally from locations close together. Moreover, during non-use the printhead is brought to a location at which the exit ports are capped to prevent evaporation of the ink. Accordingly, inks in the typical printheads are subject to some moderate transfer of ink between chambers, such as chambers 3, 5, and 7. In accordance with [the Lexmark] invention, the dilute inks must

1 be compatible with the black inks in the moderate amounts
2 which can be transferred across the printhead.

3 (2) Claim 5

4 Claim 5 depends from withdrawn independent claim 1. Claim 5,
5 re-written in independent form and reproduced from the claims appendix of
6 the Appeal Brief, reads [bracketed matter, italics, and some indentation
7 added]:

8 An inkjet printhead for inkjet printing comprising

9 [A] at least three separate chambers, each of said
10 chambers having an exit orifice,

11 [B] wherein said printhead contains an ink set,

12 [C] said ink set comprising at least three separate inks,

13 [D] each separate ink being contained in said separate
14 chambers,

15 [E] said ink in said chambers being subject to some
16 moderate entry of ink from the other of said chambers,

17 [F] *said ink set comprising:*

18 *[1] a first dilute dye-based color ink of a first color*
19 *in a first of said chambers,*

20 *[2] a second dilute dye-based color ink of a second*
21 *color in a second of said chambers, and*

22 *[3] a black ink comprising black pigment*
23 *dispersed in water in a third of said chambers,*

24 [G] said first ink and said second ink being compatible
25 with said black ink when in said black ink in moderate amounts

[H] said ink set further comprising at least one separate inkjet printhead containing:
[4] a first full intensity color ink having dye as colorant,
[5] a second full intensity color ink having dye as colorant, and
[6] a third full intensity color ink having dye as colorant.

The issue on appeal centers around the italicized language.

(3) Summary of the claim 5 invention in the Appeal Brief

In the summary of the claimed subject matter in the Appeal Brief, Lexmark identifies the following support in the specification for the subject matter of claim 5—reproduced again with drawing numbers, footnotes and references to the specification added:

An inkjet printhead 1 for inkjet printing comprising
[A] at least three separate chambers 3, 5, 7, each of said chambers having an exit orifice 9, 11, 13 [specification, page 8:9-14],¹

¹ Specification, page 8:9-14: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept. Similarly, in a separate cartridge the three chambers 3, 5, and 7 each contain full intensity inks of different colors. Orifices 9, 11, and 13 shown in Fig. 2 permit the ink in each chamber to leave the chamber for printing. Each orifice 9, 11, and 13 is in separate liquid communication with one of the chambers 3, 5, and 7.

1 [B] wherein said printhead contains an ink set,
2 [C] said ink set comprising at least three separate inks,
3 [D] each separate ink being contained in said separate
4 chambers 3, 5, 7 [specification, page 8:9-10],²
5 [E] said ink in said chambers 3, 5, 7 being subject to
6 some moderate entry of ink from the other of said chambers 3,
7 5, 7 [specification, page 8:21-22],³
8 [F] said ink set comprising:
9 [1] a first dilute dye-based color ink of a first color
10 in a first [e.g., 3] of said chambers, 3, 5, 7 [specification,
11 page 2:23-25 and page 8:9-10],⁴
12 [2] a second dilute dye-based color ink of a second
13 color in a second [e.g., 5] of said chambers 3, 5, 7, and
14 [3] a black ink comprising black pigment dispersed
15 in water in a third [e.g., 7] of said chambers 3, 5, 7,

² Specification, page 8:9-10: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept.

³ Specification, page 8:21-22: [I]nks in the typical printheads are subject to some moderate transfer of ink between chambers, such as chambers 3, 5, and 7.

⁴ Specification, page 2:23-25: Additionally, this invention is such an ink set contained in separate compartments 3, 5, 7, in a single ink jet printhead, all inks in that printhead being compatible with the black ink. Specification, page 8:9-10: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept.

1 [G] said first ink and said second ink being compatible
2 with said black ink when in said black ink in moderate
3 amounts,⁵

4 [H] said ink set further comprising at least one separate
5 inkjet printhead 1 containing:

6 [4] a first full intensity color ink having dye as
7 colorant [specification, page 3:1-3 and page 8:11-12],⁶

8 [5] a second full intensity color ink having dye as
9 colorant, and

10 [6] a third full intensity color ink having dye as
11 colorant.

⁵ Lexmark does not provide a precise numerical definition for "moderate amounts."

⁶ Lexmark cites to page 3:1-3 and page 8:11-12 of the Specification. Appeal Brief, page 9. We believe Lexmark meant to cite to Specification, page 2:25 through page 3:2 and page 8:11-12. Specification, page 2:25 through page 3:2: This invention also encompasses a dye set of full intensity color inks separated from a printhead having at least two dilute dye-based inks and dispersant-dispersed pigment ink. Specification, page 8:11-12: Similarly, in a *separate cartridge* the three chambers 3, 5, and 7 each contain full intensity inks of different colors (*italics added*).

1 (4) Examiner's rejection

2 The Examiner rejected claims 5 and 7 under 35 U.S.C. § 102(b) as
3 anticipated by Takemoto (U.S. Patent 6,075,069). Final Rejection, page 3.

4 The Examiner also rejected claims 5, 7, and 11-14 under 35 U.S.C.
5 § 102(b) as anticipated by Kanaya. Final Rejection, page 4.

6 The rejection based on Takemoto has been withdrawn. Examiner's
7 Answer, page 3.

8 (5) Lexmark argument

9 While Lexmark mentions each claim on appeal in the Appeal Brief
10 and points out how claims 7 and 11-14 further limit, we have been unable to
11 find any argument why those claims are considered to be separately
12 patentable apart from claim 5.

13 Accordingly, we will address claim 5. 37 C.F.R. § 41.37(c)(1)(vii)
14 (2008). Claims 7 and 11-14 stand or fall with claim 5.

15 Lexmark argues that Kanaya does not teach dilute color inks and
16 black ink each in separate chambers in the same printhead. Appeal Brief,
17 page 16.

18 Emphasizing the argument in difference terms, Lexmark says that
19 Kanaya simply does not disclose expressly and/or inherently a pigment
20 black in the same printhead with two dilute color inks. *Id.*

21 Reemphasizing the argument, Lexmark further states that since
22 Kanaya does not disclose an ink set for inkjet printing comprising at least
23 two dilute color inks and a black ink, wherein the dilute color inks and the
24 black ink are each in separate chambers in the same printed and further
25 wherein the dilute inks are compatible with the black inks in the moderate

1 amounts which can be transferred across the printhead, Kanaya does not
2 describe every element of claim 5. Appeal Brief, page 17.

3 (6) The issue

4 In light of the argument presented on appeal, the issue becomes
5 whether Kanaya describes an ink set for inkjet printing comprising at least
6 two dilute color inks and a black ink, wherein the dilute color inks and the
7 black ink are each in separate chambers in the same printhead and further
8 wherein the dilute inks are compatible with the black ink in the moderate
9 amounts which can be transferred across the printhead.

10 (7) Kanaya

11 The Kanaya invention relates to color ink sets which are said to have
12 excellent color reproduction and lightfastness. Col. 1:8-9

13 According to one aspect of the Kanaya invention, there is provided a
14 magenta ink set comprising two magenta ink compositions different from
15 each other in color density, [1] a magenta ink composition with higher color
16 density and [2] a magenta ink composition with lower color density.
17 Col. 2:18-22.

18 According to a further aspect of the Kanaya invention, there is
19 provided an ink set comprising: [1] a yellow ink composition; [2] two
20 magenta ink compositions different from each other in color density, a
21 magenta ink composition with higher color density and a magenta ink
22 composition with lower color density; and [3] two cyan ink compositions
23 different from each other in color density, a cyan ink composition with
24 higher color density and a cyan ink composition with lower color density.
25 Col. 3:46-55.

1 With respect to a black ink composition, Kanaya states (col. 21:11-24)
2 [bracketed matter added]:

3 According to the present invention, the ink set
4 comprising [1] a yellow ink composition, [2] two magenta ink
5 compositions different from each other in color density, and
6 [3] two cyan ink compositions different from each other in
7 color density may further comprise [4] a black ink composition.

8 Any . . . pigment capable of yielding a black print may be
9 used as a colorant contained in the black ink composition
10 usable in the present invention. . . . Examples of pigments
11 usable herein include black pigments such as carbon black.

12 In connection with a description of lightfastness (Test 1D), Kanaya
13 states (col. 45:9-31) [bracketed and italics matter added]:

14 For ink sets 3d to 6d, 8d, and 10d, [1] deep magenta,
15 [2] light magenta, [3] yellow, [4] deep cyan, and [5] light cyan
16 inks were loaded into respective ink chambers in an ink
17 cartridge for PM-770C (manufactured by Seiko Epson
18 corporation [sic]), and blotted images of magenta, yellow, cyan,
19 red, blue, green, and *composite black* were printed on the
20 recording media

21 [P]rinting was carried out under conditions controlled
22 such that [1] the *red* was constituted by the deep magenta ink,
23 the light magenta ink, and the yellow ink, [2] the *blue* was
24 constituted by the deep magenta ink, the light magenta ink, the
25 deep cyan ink, and the light cyan ink, [3] the *green* was

1 constituted by the yellow ink, the deep cyan ink, and the light
2 cyan ink, and [4] the *composite black* was constituted by the
3 deep magenta ink, the light magenta ink, the yellow ink, the
4 deep cyan ink, the light cyan ink, and the black ink.

5 For ink sets 1d, 2d, 7d, and 9d, [1] yellow, and [2] cyan
6 inks were loaded into respective ink chambers in an ink
7 cartridge for MJ-930C (manufactured by Seiko Epson
8 Corporation), and blotted images of magenta, yellow, cyan, red,
9 blue, green, and composite black were printed on . . . recording
10 media

11 C. Discussion

12 (1) Lexmark argument

13 As noted earlier, Lexmark's sole argument is that Kanaya does not
14 describe a first dilute color ink, a second color ink and black ink in separate
15 chambers of the same printhead. Appeal Brief, pages 16-17.

16 The Examiner found otherwise, citing column 21 and column 45 of
17 Kanaya, which we reproduced above.

18 Lexmark's argument is brief. Apparently, Lexmark does not think the
19 column 45 portion of Kanaya "anticipates" because it does not describe
20 black ink in a separate chamber.

21 (2) Kanaya

22 Kanaya explicitly states in column 21 that the ink set composition
23 may include black ink—in addition to yellow ink, two magenta inks and two
24 cyan inks. The fact that the five ink embodiment of column 45 does not
25 include a black ink chamber does not destroy the anticipatory disclosure in

column 21 that the ink set may include black ink. In this respect, Kanaya reveals that cartridges with six chambers are known. Col. 44:67 (cartridge for six colors, manufactured by Seiko Epson). One skilled in the art is therefore taught that a six chamber cartridge may be used in which one chamber contains black ink in the form of a pigment.

Kanaya, therefore, describes two embodiments. In a first, black print is the result of a *composite black* from combinations of dyes. Col. 45. In a second, black print is a result of a black ink composition *inter alia* from a pigment such as carbon black. Col. 21.

The second Kanaya embodiment describes the limitation which Lexmark says is missing. It follows that Lexmark has failed to show that the Examiner erred in rejecting the claims on appeal.

(3) Lexmark's compatibility argument

Lexmark also argues that Kanaya does not describe a black ink that is compatible in moderate amounts with the other inks. Kanaya and Lexmark both describe the use of carbon black based inks. Specification, page 3:6-11 and Kanaya, col. 21:23-24. Lexmark has failed to submit evidence showing that the carbon black of Kanaya is not compatible in moderate amounts with the other Kanaya inks. As Lexmark should know, the USPTO does not have testing facilities to look into compatibility characteristics of inks. *In re Brown*, 459 F.2d 531, 535 (CCPA 1972).

(4) Arguments waived by Lexmark

We have noted that Lexmark restricted the arguments on appeal to those set out above. To the extent that other arguments might have been, but were not made, those other arguments are waived. For example, Lexmark

1 has not addressed the "at least one separate inkjet printhead" limitation of
2 claim 5. Because Lexmark did not address that limitation, the Examiner had
3 no occasion to address it and we have no occasion to address a limitation not
4 called to the attention of the Examiner.

5 With respect to claims 7 and 11-14, Lexmark identifies additional
6 limitations. However, Lexmark does not explain why those additional
7 limitations render claims 7 and 11-14 patentable apart from claim 5. "A
8 statement which merely points out what a claim recites will not be
9 considered an argument for separate patentability of the claim." 37 C.F.R.
10 § 41.37(c)(1)(vii) (2008), last sentence. Claims 7 and 11-14 therefore fall
11 with claim 5.

12 (5) Additional comment

13 We have found that Lexmark has not established on appeal—as was
14 its burden—that the Examiner erred in rejecting claim 5 as anticipated.

15 Had we found otherwise, we would have made a new ground of
16 rejection under 35 U.S.C. § 103 based on Kanaya. 37 C.F.R. § 41.50(b)
17 (2008). However, since we affirm the § 102 rejection, we exercise
18 discretion not to also make a § 103 rejection because it would result in
19 reopening prosecution and we see no need or reason for doing so.

1 D. Decision

2 Lexmark has not sustained its burden on appeal of showing that the
3 Examiner erred in rejecting the claims on appeal as being unpatentable under
4 35 U.S.C. § 102(b) over Kanaya.

5 Upon consideration of the appeal, and for the reasons given herein,
6 it is

7 ORDERED that the decision of the Examiner rejecting
8 claims 5, 7, and 11-14 under 35 U.S.C. § 102(b) over Kanaya is *affirmed*.

9 FURTHER ORDERED that no time period for taking any
10 subsequent action in connection with this appeal may be extended under
11 37 C.F.R. § 1.136(a)(1)(iv) (2008).

AFFIRMED

KMF

cc (via First Class mail)

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